

ABSTRACT

A power-assisted bicycle includes a torque detection mechanism system that is simple in structure, saves space, and is lightweight. A one-way clutch (72) for transmitting only rotation of the drive shaft (4) to the sprocket (70) in the direction in which the bicycle proceeds is disposed inside a hollow cylindrical portion (82) of the sprocket (70). On the sprocket face opposite thereto, a bearing (74) is engaged with an outer periphery of the cylindrical portion (82), and an elastic disc spring (76) holds the sprocket (70) with the aid of the bearing. The disc spring (76) is fixed to the bicycle body and a strain gauge (80) for detecting a stress deformation of the disc spring (76) is mounted on the surface thereof. As the drive shaft (4) is rotated by the aid of the pedaling torque, the one-way clutch (72) exerts an axially pressing force onto the sprocket (70) to deform the disc spring (76), and the strain gauge (80) detects the stress deformation of the disc spring (76) (that is, a physical parameter associated with the pedaling torque).